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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,267	03/31/2004	Jos Bastiaens	08CN8851-6	7478

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EXAMINER

ZEMEL, IRINA SOPJIA

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/815,267	Applicant(s) BASTIAENS ET AL.	
	Examiner Irina S. Zemel	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-53 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Rejection not addressed below are deemed withdrawn.

#### ***Claim Rejections - 35 USC § 102/103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4, 7, 8, 9, 10, 12, 15-16, 30, 32, 34, 35, 37, 39, 42, 43, 44, 52 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 4,927,859 to Weber et al., (hereinafter "Weber").

Weber discloses foamable precursor compositions in the form of pellets that is obtained by blending polystyrene and polyphenylene ether in the amounts corresponding to the claimed amounts, melting the blend, and further blending the melt with pentane foaming agent. The blend is further formed in the form of pellets and then foamed. See all illustrative examples, abstract, column 3 line 64 to column 4, line 40. The reference further expressly discloses addition of non-halogenated flame retardants such as trisnonylphenyl phosphite and triphenylphosphine oxide (see column 3, lines 48-49). Addition of impact resistant polymers is further contemplated by the reference by disclosing impact modified polystyrenes as suitable polymers for the invention. See column 2, lines 43-52.

The reference does not specifically addresses sound level properties of the disclosed expanded compositions (as claimed in claim 2), however, since the

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compositions disclosed in the reference and the claimed compositions are substantially identical and produced by substantially identical methods, it is reasonable believed that the claimed property limitation is inherently met by the compositions disclosed by Allen. The burden is shifted to the applicants to provide factual evidence to the contrary.

While the reference does not expressly address whether the polystyrene used in the expanded blends is essentially free of plasticizer, the polystyrenes disclosed in the reference and described as homo or copolymers of various vinyl-aromatic compounds would normally refer to a polymer free of any additives. Plasticizer, or compound used to improve processing behavior or flexibility of a given polymeric compound, is not normally formed in situ during polystyrene polymerization, and, normally, is specifically added after polymer formation.

In the alternative, even if the polyarylene polymers disclosed in the reference do contain plasticizer, elimination of a component and its function would have been considered obvious in the absence of unexpected results that can be attributed to the presence or absence of a plasticizer in the polyarylene polymer. So far, the record is devoid of any showing of such results.

Since the reference, as discussed above, discloses substantially the same steps of producing the claimed product, it is reasonably believed that the claimed product is substantially identical to the products (final expanded blends or expandable particles). Furthermore, it has been long established by the courts that the patentability of the product does not depend on the method the product is obtained, unless a material difference exists between the product obtained by the claimed process and the product

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disclosed in the art. As discussed above, in view of the similarities of the disclosed process, it is reasonable believed that the claimed product is substantially identical to the product. The burden is shifted to the applicants to provide factual evidence to the contrary.

Claims 1-2, 4, 6, 8-10, 12, 14, 45, 47, 50-51 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Allen.

The rejection of all pending claims over Allen stands as per reasons set forth in the previous office action. Applicants should note that the invention claimed in claim 1 is directed to the **expanded** blend obtained by the claimed method steps. The process steps include the third step of expanding the pellets, which, according to the specification, is done in the melt. The newly added limitation to the poly(arylene ether)/polystyrene blend being in a form of pellets **prior** to the expansion step as per claim 1 does not appear to materially or patentably modify the claimed final expanded product, which is reasonable believed to be substantially the same as the product disclosed in Allen since the final foams are obtained from the melted blend. The burden is shifted to the applicants to provide factual evidence that having the intermediate blend in the form of the pellets materially and patentably distinguish the claimed **foamed** product obtained by the claimed steps from the product disclosed in the reference.

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Applicants should further note that claim 45 does NOT contain the limitation of the product being in the form of pellets, thus, the previous rejection stands as per reasons of record.

***Claim Rejections - 35 USC § 103***

Claims 3, 5, 11, 13, 46, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen in combination with US Patent 4,350,793 to Schmidt et al., (hereinafter "Schmidt").

The rejection stands as per reasons of record.

(The previous rejection recited the language that implies recitation of an additional reference. In fact, the rejection, as evident from the body of the rejection, was made over the combined teachings of Allen and Schmidt only. While it is clear from the record that therejection was made over the two cited reference without including any additional references, the Examiner regrets any inconvenience incorrect recitation of the basis for rejection may have caused the applicants).

Claims 3, 5, 11, 13, 31, 33, 38, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt

The disclosure of Weber is discussed above. Weber does not expressly disclose intrinsic viscosity of suitable polyphenylene oxides (PPO) and molecular weights of suitable polystyrenes thus implying that PPO of any known and commonly available viscosities and polystyrene of any known and commercially available molecular weights are suitable for the invention absent showing of unexpected results

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that can be clearly attributed to the claimed viscosities and molecular weights. PPO with claimed viscosities and polystyrenes of claimed molecular weights are well known in the art as evidenced by, for example, Schmidt. (Columns 5 and 6). Thus use of claims PPO and polystyrenes such as those disclosed by Schmidt in compositions of Allen would have been obvious with reasonable expectation of adequate results.

Claims 14, 17, 19, 21-23, 25, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Allen.

The disclosure of Weber is discussed above. Weber does not expressly disclose addition of nucleating agents. However, addition of nucleating agents to expandable compositions is NOTORIOUSLY known in the art to control the size of the cells and foaming rates. This position is supported, for example by Allen., see column 5, line 15

Thus addition of nucleating agent to foamable compositions disclosed by Weber would have been obvious for the known effects of nucleating agents.

Claims 18, 20, 24, 26, are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Allen and further in combination with Schmidt

Disclosure of Weber and Allen is discussed above. Thus use of claims PPO and polystyrenes such as those disclosed by Schmidt in compositions of Weber would have been obvious with reasonable expectation of adequate results as per discussion above.

***Response to Arguments***

Applicant's arguments filed 8-31-2005 have been fully considered but they are not persuasive. In regard to compositions claimed in claims 1-16 and 45-51, the arguments are not persuasive for the reasons discussed above. As discussed above, claim 45 does not even claim the pellet form of the compositions, while the form of the PPO/PS blend prior to expanding it upon exposure to the heat is irrelevant to the patentability of the final product. Unless the applicants can provide factual evidence that the form of the blend, i.e., pellet form, materially affects the claimed product obtained from such pellets, the step of using the pellet form is immaterial to the patentability of the product, even though it is claimed in the product-by-process format. See discussion above.

Applicant's arguments with respect to all other claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

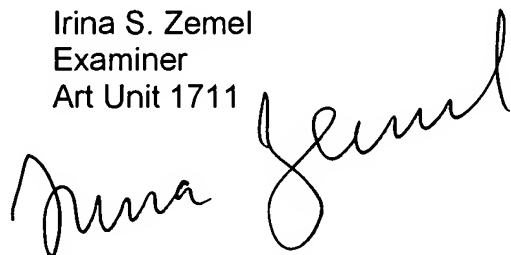
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ISZ

Irina S. Zemel  
Examiner  
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A handwritten signature in black ink, appearing to read 'Irina Zemel', is written over the printed name and title.